Enhui Li

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Education

University of Virginia (UVA) *August 2022 – December 2025*

Bachelor of Arts, Major in Computer Science, Applied Statistics *VA, USA*

- **Relevant Courses:** Data Structures & Algorithms, Computer Systems and Organization, Software Development Essentials, Software Engineering, Machine Learning, Database Systems, Discrete Math and Theory, Introduction to Cybersecurity, Data Analysis with Python
- **Cumulative GPA:** 3.929/4.0
- **Honors:** Dean's List (2023 Spring, 2023 Fall, 2024 Spring, 2025 Spring)

Publication

Co-author. (2024). **Creating a Cooperative AI Policymaking Platform through Open Source Collaboration.** *arXiv preprint* arXiv:2412.06936

Research Experiences

Emergency EHR Visualization *August 2025 – Present*

Research Assistant (Supervisor: Prof. Mai Dahshan)

- Analyzed literature and existing models on event summarization, retrieval pipelines, and context-grounded reasoning to design a theoretically consistent AI summarization workflow.
- Explored RAG-based summarization frameworks for generating concise, context-aware summaries of evolving emergency events from heterogeneous data sources.
- Evaluated LLM reasoning reliability and retrieval consistency, analyzing trade-offs between factual grounding and adaptive summarization depth.

Agentic Reasoning Project *May 2025 – Present*

Research Assistant (Supervisor: Prof. Sheng Li)

- Conducted a theoretical literature review on reasoning depth, confidence calibration, and agentic control, identifying key gaps between passive LLM reasoning and active metacognitive regulation.
- Reviewed and annotated project code and agentic workflows to extract the underlying decision-making mechanisms linking confidence, context, and tool-calling.
- Developed a unifying theoretical framework connecting over-reasoning phenomena with agentic confidence regulation, outlining hypotheses for future implementation and evaluation.

Clarifying Question & Robot Uncertainty Project *August 2025 – Present*

Research Assistant (Supervisor: Prof. Yen-Ling Kuo)

- Reviewed literature on uncertainty alignment and clarifying-question frameworks, synthesizing insights from KNOWNO (robotic uncertainty) and Double-Turn Preference (ICLR 2025) to model how LLM agents identify and verbalize uncertainty.
- Explored and extended the project codebase of the Clarifying Question model, including its data pipeline and training logic to replicate experimental workflows.
- Implemented a custom evaluation function to measure model performance and reasoning reliability, supporting research on adaptive clarification strategies in robotic and language agents.

Neuroscience in the Loop *December 2024 – May 2025*

Research Assistant (Supervisor: Prof. Mai Dahshan)

- Applied image and text transformers to analyze multimodal neuroscience data, experimenting with cross-modal architectures for pattern recognition.
- Built and tested AI models on high-dimensional neural datasets to uncover correlations and improve model interpretability.
- Led early-stage evaluation and iteration cycles, optimizing transformer-based pipelines for improved accuracy and research usability.

Humanity Unleashed *September 2024 – May 2025*

- Integrated PatchTST into the Time-LLM model, enabling high-performance multivariate time series forecasting through transformer-based temporal encoding and patch-wise learning strategies.
- Extended Time-LLM by implementing DeepAR, introducing probabilistic forecasting capabilities to produce uncertainty-aware predictions for complex temporal data.

Internship Experiences

We Independent *Charlottesville, USA*

Full Stack Developer Intern *September 2025 – December 2025*

- Integrated Redis-based caching mechanisms to reduce latency and improve data retrieval efficiency.
- Managed file storage and upload pipelines, maintaining synchronized copies between local servers and Oracle-based remote storage for image assets.
- Adjusted React/JavaScript UI components to match finalized design mockups and improve visual consistency.
- Utilized statistical analysis to evaluate web traffic and server performance, conducted load testing, and assisted in server optimization and updates.

Full Stack Developer Intern *May 2025 – August 2025*

- Developed search APIs using Node.js and MySQL, supporting Natural Language and Boolean full-text search, tag-based filtering, and flexible keyword-filter combinations with dynamic SQL.
- Built a responsive React search bar with autocomplete suggestions, tag filters, and paginated results.
- Refactored backend codebase and updated database schema to improve code readability, modularity, and maintainability across search-related features.

Backend Developer Intern *May 2024 – August 2024*

- Developed the backend system, including the Login Controller, Google OAuth integration, and user authentication processes, ensuring seamless communication between frontend and backend.
- Designed a password encryption algorithm and implemented secure user registration and login validation, enhancing data security and system reliability.
- Created and managed the database architecture to support efficient data storage and retrieval.

Technical Projects

To-do List Application *August 2024 – December 2024*

- Led a team of 5 students in testing and quality assurance, coordinating feature tests like task management, recurring reminders, prioritization, and in-app messaging; performed unit and end-to-end testing to ensure functionality and responsiveness.
- Implemented intuitive UI/UX designs based on user feedback; integrated Google OAuth for user authentication and enabled file uploads to Amazon S3.
- Engineered and maintained continuous integration (CI) using GitHub Actions, automating tests and reducing manual testing time by 30%.

Course Review Application *May 2024*

- Built a course and review management system using Java + JavaFX, implementing persistent storage with SQLite.
- Designed GUI components for authentication, course search, and review workflows, emphasizing usability and robust error handling.
- Implemented database logic with JDBC, supporting full CRUD operations, transaction management, and data integrity through constraints and foreign keys.

Leadership & Activities

Teaching Assistant – Database Systems *August 2025 – December 2025*

Head TA (Grading Lead)

- Assisted the course instructor in designing exams and homework, reviewing lecture materials, and refining course content for clarity and rigor.
- Led weekly office hours and discussion sessions, guiding students in database design, SQL, and normalization concepts, providing hands-on debugging and problem-solving support.
- Provided detailed feedback on assignments and projects, ensuring consistent grading standards and promoting individualized student improvement.

Mainland Student Network *August 2022 – May 2023*

Operation Chair

- Coordinated event logistics and assisted the events team with setup, scheduling, and on-site operations, ensuring smooth execution of student activities.
- Planned and organized student events, coordinating invitations and outreach to guest speakers, including UVA professors and alumni.
- Designed and formatted event posters and other publication materials to enhance visual clarity and communication effectiveness.

SKILLS

Language Skills: Chinese (Native), English (Proficiency, TOEFL: 107, GRE: 325)
Technical Skills: Python, JavaScript/TypeScript, Java, C/C++, SQL (MySQL, PostgreSQL), React, Next.js, Node.js, Django, Redis, Amazon S3, HTML/CSS, Maven, Vercel, GitHub Actions, Linux